Site Management Plan for Credo Ra, LLC APN 210-041-011; Tier 2, Low Risk

PREPARED FOR

California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

PREPARED BY

Elevated Solutions
730 7th Street Suite C
Eureka, CA 95501

Suggested citation:
Elevated Solutions. 2019. Site Management Plan for APN 210-041-011. Prepared by Elevated Solutions, Eureka, California for the North Coast Regional Water Quality Control Board, Santa Rosa, California and Credo Ra, LLC.

Table of Contents

Tables

Figures

Appendices

Purpose:
This document serves as the Site Management Plan on behalf of the discharger, Credo Ra LLC, pursuant to Order No. WQ 2019-001-DWQ (General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for discharges of Waste Associated with Cannabis Cultivation Activities) of the California Water Code Section 13260(a).

Tier Designation
This property has been classified as a Tier 2, Low Risk designation.

1 SEDIMENT DISCHARGE BEST PRACTICAL TREATMENT OR CONTROL (BPTC)

1.1 Site Characteristics

1.1.1 Site Overview

Elevated Solutions has been contracted by the owners of APN 210-041-011 to perform a site assessment and develop a Water Resource Protection and Site Management Plan to decrease existing and potential future sediment delivery to tributaries of the Eel River and reduce other threats to water quality. The site plan for the property is shown on Figure 1.

In August 2018, a site visit was conducted by Elevated Solutions in which a road inventory and assessment of cultivation areas were evaluated. All site locations are shown in Appendix B and each site is described below.

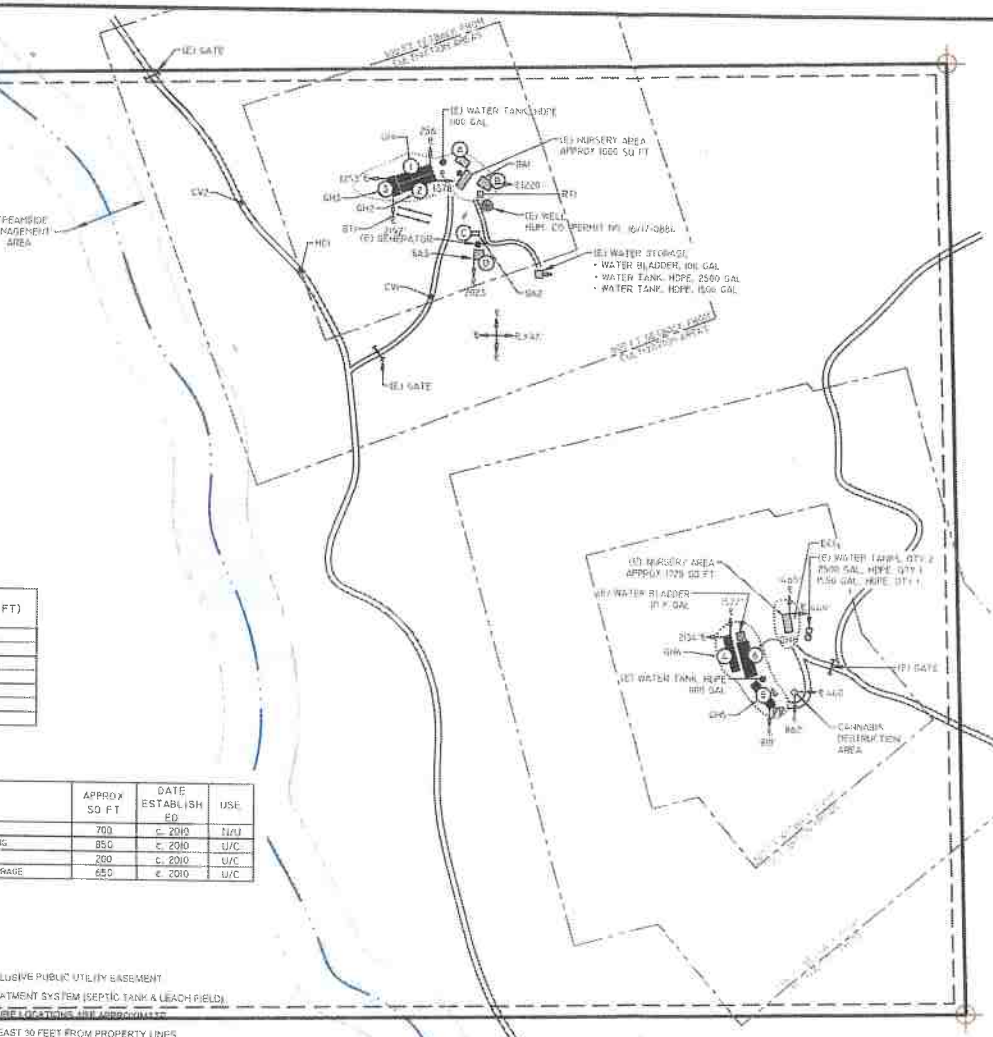
- Permitted Groundwater Well is the domestic and agricultural source of water and is also used for topping of tanks during the non-forbearance period.
- Credo Ra currently has 30,000 gallons of hard plastic tank storage that is filled up during the non-forbearance months and used during the forbearance period.
- Credo Ra currently has an interim permit with Humboldt County and a Provisional License with the State of California to cultivate 12,150 SF of outdoor cultivation in metal greenhouse structures for the 2020 season.

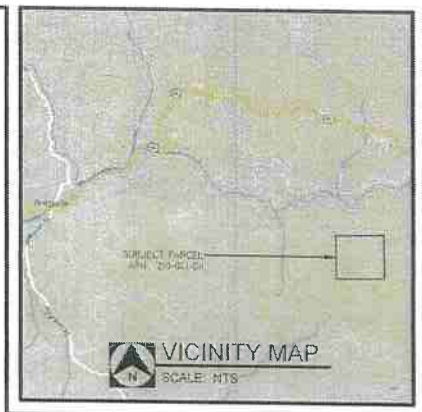
The subject property is located off Hwy 36 in Larabee Valley, situated in a draw that drains into the Little Larabee Creek which is a tributary to the Van Duzen, tributary to the Eel River. The property and surrounding vicinity is composed of Franciscan Complex geology consisting of Cretaceous and Jurassic sandstone with smaller amounts of shale, chert, limestone, and conglomerate as well as Franciscan mélange[1]. Based on NRCS soils map for the region[2], the cultivation areas and proposed project components are in Yorknorth-Devilshole complex.

[1] California Department of Conservation, Geologic Map of California (2010), accessed online at: http://maps.conservation.ca.gov/cgs/gmc
[2] NRCS Watershed Boundary Dataset, Sub-region level, 2012.

Figure 1. APN 210-041-011 overview map.

PARCEL INFORMATION
APN: 210-041-011
LOT SIZE: 160.0 ACRES (ASSESSED)





DIRECTIONS FROM FROM BRIDGEVILLE, CA

- HEAD WEST ON KNEELAND RD TOWARD CA-36 E
- TURN LEFT ONTO CA-36 E (SIGNS FOR DINSMORE/RED BLUFF)
- TURN RIGHT ON UNNAMED ROAD (MILE MARKER 31.6)
- CONTINUE TO SUBJECT PARCEL

GREENHOUSES

GREENHOUSE #	AREA (SQ FT)
1	1920
2	1920
3	720
4	1920
5	1600
6	1920
TOTAL GREENHOUSE AREA	10000

EXISTING BUILDINGS AND STRUCTURES

BUILDING	TYPE	APPROX SQ FT	DATE ESTABLISHED	USE
A	CABIN	700	c. 2010	N/U
B	OUTBUILDING - STORAGE AND DRYING	850	c. 2010	U/C
C	FUEL STORAGE ENCLOSURE	200	c. 2010	U/C
D	OUTBUILDING - PROPAGATION & STORAGE	650	c. 2010	U/C

LEGEND

- PROPERTY LINE
- 30 FT SETBACK FROM PROPERTY LINE
- 100 FT SETBACK FROM CULTIVATION AREAS
- 600 FT SETBACK FROM CULTIVATION AREAS
- CLASS II WATERCOURSE
- GRADED AREA (<5% AVERAGE SLOPE)
- EXISTING CULTIVATION AREA
- PRIVATE ACCESS ROAD (12-20' WIDTH, UNPAVED)
- SEPTIC TANK AND LEACHFIELD
- WELL
- PARKING SPACE
- SETBACK DIMENSION TO PROPERTY LINE
- SURVEY MONUMENT
- U/C — USED FOR CULTIVATION ACTIVITIES
- N/U — NOT USED FOR CULTIVATION ACTIVITIES
- (E) — EXISTING
- (P) — PROPOSED

SITE PLAN
SCALE: 1"=300'

GENERAL NOTES

1. NO PROPOSED GRADING
2. EASEMENTS: INGRESS/EGRESS AND NON-EXCLUSIVE PUBLIC UTILITY EASEMENT
3. SITE SERVED BY ON-SITE WASTE WATER TREATMENT SYSTEM (SEPTIC TANK & LEACH FIELD).
4. PROPERTY LINE, BUILDING, ROAD, AND FEATURE LOCATIONS ARE APPROXIMATE
5. ALL CULTIVATION AREAS ARE SET BACK AT LEAST 30 FEET FROM PROPERTY LINES
6. NO KNOWN WATER DIVERSIONS INCLUDING CULVERTS, PONDS, DAMS OR OTHER GROUND DISTURBANCES FROM WATER DIVERSION.
7. NO KNOWN RESIDENCES ON ADJACENT PARCELS WITHIN 300 FEET OF CULTIVATION AREAS.
8. NO KNOWN SCHOOLS, SCHOOL BUS STOPS, PLACES OF WORSHIP, PUBLIC PARKS, OR TRIBAL CULTURAL RESOURCES WITHIN 600 FEET OF CULTIVATION AREAS
9. LOCATIONS OF STRUCTURES AND POINTS SHOWN ON THE MAP ARE APPROXIMATE, ACCORDING TO APPLICANT'S KNOWLEDGE, AND HAVE NOT BEEN VERIFIED BY MEE

RECEIVED
APR - 5 2019
HUMBOLDT COUNTY PLANNING DEPT

MOTHER EARTH ENGINEERING

APN: 210-041-011

SITE PLAN

SITE MANAGEMENT PLAN

APPLICANT: CREDO RA, LLC
ADDRESS: 403 RIFLE CAMP ROAD, WOODLAND PARK, NEW JERSEY, CA 07424

JOB NO: 017020

DATE: SEPTEMBER

PAPER SIZE: 11" x 17"

DRAWN: KLOSS CHECKED: AL

SHEET NO.

1

OF 1

1.1.2 Access Road Conditions

Overall, the primary access roads on the property are in good condition. The roads were processed in 2018 by a licensed contractor with rolling dips/out slope installed but will need to be surfaced with rock during the 2020 construction season. All roads will be evaluated after the winter rains/snow and processed if needed.

1.1.3 Legacy Waste Discharge Issues

Legacy disturbance from historic timber harvest on the property prior to current ownership has been assessed and is generally limited to the currently utilized access roads. The road network and cultivation areas are inspected regularly for signs of erosion that could exacerbated the legacy waste discharge issues.

1.1.4 Vehicle stream crossing

There are 5 road/stream crossing on the property that will be upgraded per the LSA agreement. Crossing #1 is a re-alignment of a class III stream channel through installation of a 24-inch diameter CMP culvert. Crossing #2 is an existing 12-inch diameter culvert and will be upgraded to a 24-inch diameter by 30-foot long CMP culvert. Crossing #3 is an existing 18-inch diameter culvert and will be upgraded to a 30-inch diameter by 30-foot long CMP culvert. Crossing #4 is an existing rocked ford crossing on a class III stream and will have the outlet armored with 1/16-ton rip rap. Crossing#5 is an existing 24-inch diameter culvert and will be upgraded to a 48-inch diameter by 30-foot long CMP culvert.

1.2 Sediment Erosion Prevention and Sediment Capture

1.2.1 Roads - Sediment and Erosion Prevention

All roads on the property are in good condition. No significant road maintenance is needed except for standard annual maintenance such as graveling and reshaping. The road system was processed and rocked in 2018 and rolling dips/ out sloping has been implemented and will be monitored after the winter rains/snow and be repaired as needed.

1.2.2 Cultivation Areas - Sediment and Erosion Prevention

All cultivation sites have appropriate setbacks from watercourses and follow the BMPs. Soil pile is covered starting October 1 with plastic and the perimeter is contained with straw wattles. All dirt areas have straw applied and straw bales have been placed strategically on out sloped areas to prevent any sediment delivery. Greenhouse covers have been removed and wattles have been placed around the perimeter of the structure.

1.2.3 Other Areas - Sediment and Erosion Prevention

1.2.3.1 Groundwater Well Treatments

Water is provided by a permitted groundwater well. Water is stored during the winter months into the 30,000 gallons of hard plastic tank storage and used for agricultural use during the forbearance period.

1.2.4 Maintenance - Sediment and Erosion Prevention

- Erosion and sediment control best management practices (BMPs) shall be installed prior to the wet season (1 October through 30 April).
- Sensitive areas and areas where existing vegetation is being preserved shall be protected with construction fencing; fencing shall be maintained throughout construction activities.
- All areas disturbed during grading activities shall be seeded with native grass seed and mulched with rice straw.
- Prior to seeding and straw, disturbed areas should be roughened by track walking with a dozer.
- Straw shall be applied at a uniform rate of approximately 4,000 lbs per acre by hand.
- At the completion of the project, straw wattles shall be placed as directed by the engineer or geologist.
- All sediment control BMPs shall be maintained throughout the wet season until new vegetation has become established on all graded areas.
- Soil Pile is covered with plastic, secured with rope and sandbags, and straw wattles have been placed around the perimeter. Long term solution will be a wooden structure around the soil pile to prevent delivery with a covered roof to prevent leaching.

2 FERTILIZER, PESTICIDE, HERBICIDE, AND RODENTICIDE BPTC MEASURES

2.1 Summary of Products Used

2.1.1 Fertilizer

Fertilizers, potting soils, compost, and other soils and soil amendments are stored in locations and in a manner in which they cannot enter or be transported into surface waters and such that nutrients or other pollutants cannot be leached into groundwater. All soil is contained in pots inside the greenhouse structures, covered with plastic, and straw wattles have been placed around the perimeter to avoid any delivery to surface waters.

If the landowner wishes to keep fertilizers and soil amendments on the Project Site, they should continue to be stored fully under cover, off the ground, and in a stable location not exposed to the elements. All fertilizers are stored in a secure cargo shipping container with secondary containment, identified as Nutrient and Pesticide storage area. Fertilizers, potting soils, compost, and other soils and soil amendments should not be stored with petroleum products as they may be incompatible and could potentially react. All petroleum products are stored in a secure cargo shipping container with secondary containment identified as Oil and Petroleum storage area.

Applicant is required to keep detailed records of the type, timing and volume of fertilizers and/or other soil amendments you use in your operations. Observe and monitor soil moisture so watering, fertilizer and chemical applications are made only when necessary and overwatering and excess infiltration is avoided. Credo Ra utilizes hand watering to avoid any overwatering.

2.1.2 Pesticide, Herbicide, and Rodenticide

To be compliant with the Order, all pesticides, herbicides and related materials (e.g., fungicides) must be used and applied consistent with product labeling. Pesticide and herbicide storage and

use on the Project Site must be closely monitored and recorded. Landowner is required to keep records (logs) of the type, timing and volume of pesticides and herbicides used in your operations.

When present, pesticides and herbicides should be stored within enclosed buildings in such a way they cannot enter or be released into surface or ground waters. They should not be stored with petroleum products as they may be incompatible and could potentially react.

2.2 Procedures for Storage, Mixing, and Application

2.2.1 Irrigation Runoff

Irrigation water is applied to cultivation areas at agronomic rates, so runoff is not an issue.

2.2.2 Spoils Management

All spoils generated by the operations are reused on site. All soil is contained in pots inside the greenhouse structures, covered with plastic, straw wattles placed around the perimeter, and amended each year after analysis. All dirt areas in the greenhouses that are exposed are covered in straw and perimeter of greenhouses have straw wattles.

2.3 Procedures for Spill Prevention and Cleanup

To prevent nutrient leaching from cultivation areas, continue to plant dense cover crops in spent pots, holes and beds to enrich soil and lock up nutrients or; 1) fully tarp any exposed soils and growing mediums in beds, pots, holes or piles; or 2) move spent soils and amendments inside or under cover to temporarily store them during the wet season (November 1 – May 15). If dense cover crops cannot be kept alive, all planted areas should be tarped to protect them from rainfall, snowmelt and subsequent infiltration and leaching of nutrients. Winterize all cultivation areas and all disturbed areas on the Project Site by placing straw wattles with biodegradable wrapping on the downslope perimeter and/or by mulching/seeding any bare soil areas on cultivation sites.

All the necessary spill prevention and clean-up materials are on site and available in the immediate vicinity of storage area for petroleum and pesticide. Major spills should be addressed per actions described in Section 3.3 below.

3 PETROLEUM PRODUCT BPTC MEASURES

3.1 Summary of Products Used

3.2 Procedures for Storage, Mixing, and Application

All small fuel cans, generators, fuel tanks, gasoline powered garden equipment and any other items containing petroleum products in adequate secondary containment basins and store in a safe, covered, secure location (e.g. away from slopes and outside of riparian buffers). Generator and fuel storage area has concrete flooring, secondary containment, and a secure enclosed structure. Spill kits, fire extinguishers, and first aid kits are located at the pesticide and nutrient storage area as well as fuel and generator area.

3.3 Procedures for Spill Prevention and Cleanup

If gas or oil is spilled, immediate attention will be taken to stop the spill by turning off valves or plugging the source of the leak. If the source is a tank or any other kind of container and it is punctured, a wooden plug or a bolt will be used to prevent further leaking. Spill kits and fire extinguishers are located at the fuel/generator shed and Oil/Petroleum storage area.

After stopping the spill, the contaminated soil will be removed from the ground and contained in a bucket, pail, or other non-permeable container. All soil that has visible oil stains or petroleum odor will be dug out and contained. The contaminated soil will be disposed of in accordance with state law.

After the cleaning process is finished, the employee must submit a report of the incident describing what was spilled and the amount, how the spill was cleaned, and the steps that will be taken to prevent future spills. Illustrations or diagrams should be included to show the contaminated area, the excavation of the soil, and the kind of waste that was created. The spillage event and corrective actions will be written down in the Field Sanitation Unit Service Log and kept in our records.

In general, the following clean-up steps will be performed:

1. Any affected material is immediately disposed of in a covered waste bin.
2. The contaminated area will be marked off with caution tape or string.
3. Signs in appropriate languages will be posted at the perimeter prohibiting entry to the contaminated area.
4. People and animals will be kept out until the area is sufficiently decontaminated.
5. Any solid waste still resting on the surface will be collected, shoveled up, and removed to the waste bin.
8. The spillage event and corrective actions will be written down in the Field Sanitation Unit Service Log and kept in our records.

4 TRASH/REFUSE AND DOMESTIC WASTEWATER BPTC MEASURES

4.1 Trash/Refuse

All refuse is stored in trash containers in a secure location. It is important to utilize storage facilities which prevent animals from accessing or disturbing garbage or refuse. Garbage is removed from the property and hauled to approved County collection location at least once per month. All Trash is stored in a 10x10 secure enclosed structure.

4.2 Number of Employees, Visitors, or Residents at Site

Typically, two individuals would be working during production April-October. During peak harvest periods as many as 4 individuals may be working on the property in July through October.

4.2.1 Human Waste

Human waste is directed from the residence to the existing permitted septic tank and leach field system approved by Humboldt County. Credo Ra will have the septic system serviced in the 2020 season and will service as needed.

5 WINTERIZATION BPTC MEASURES & SCHEDULE

The applicant should conduct the following activities prior to the onset of measurable rainfall:

1) Ensure that the cultivation areas are either tarped or planted with thick cover crop
2) Make sure that all cultivation related supplies and equipment are in a secure covered location per Sections 2-4 above
3) Roads are surfaced with rolling dips and out slope installed to prevent sediment delivery
4) Soil pile is covered with plastic and straw wattles are placed around the perimeter
5) Perform yearly maintenance on drainage features as applicable to reduce runoff concentration (i.e. handwork or small equipment work to maintain water bars, ditches, sediment catchment areas, etc.)
6) Project site is monitored monthly or after a significant rainfall event for any sign of sediment control failures.

6 OTHER CULTIVATION SITE INFORMATION

Elevated Solutions has conducted significant assessment and planning at this site. Credo Ra currently has an interim permit with Humboldt County Planning Department and a Provisional License with the State of California for 12,150 SF of outdoor cultivation in greenhouse structures for the 2020 season.

7 CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information. I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

_____

Steve Doyle
State Contractor # 1031712
Elevated Solutions

Appendix A

Biological Resources Technical Report

Wetland Delineation Report

APN: 210-041-011

October 2019

Prepared For:

Credo RA, LLC

Permit Application No. 12215

Prepared By:

MOTHER EARTH ENGINEERING

661 G Street Arcata, California 95521
707-633-8321 | motherearthengineering.com

Table of Contents

Appendices

List of Figure

1.0 Introduction

1.1 Purpose and Need

This document was prepared for Credo RA, LLC in response to a 6 May 2019 correspondence from the Humboldt County Cannabis Services Division requesting a wetland delineation for an area near a cultivation activity on the 160-acre property owned by Rados Milojkovic of Credo RA, LLC. The delineation was performed to evaluate the presence of jurisdictional wetlands and identify wetland boundaries within the study area. This report is based on the fieldwork performed on 16 October 2019.

1.2 Project Description

Credo RA, LLC currently holds an interim permit for 12,105 ft² of existing mixed light cultivation under Humboldt County's Commercial Medical Marijuana Land Use Ordinance (CMMLUO). Credo RA, LLC has also obtained a provisional cannabis cultivation license for a Medium Mixed-Light Tier 1 license type (License No. PAL18-0000269) under California Department of Food & Agriculture (CDFA). The applicant is seeking a Conditional Use Permit (CUP) (Case No.: PLN-12215-CUP) to move forward with the project, on which this wetland delineation report is contingent.

2.0 Environmental Setting

2.1 Project Location

The project is located approximately 2.46 miles south of a private drive south of State Hwy 36 in the Bridgeville area (Section 16, Township 1 North, Range 4 East) of Humboldt County, California (*Figure 1*). The project is located on a property at APN: 210-041-011 within the U.S. Geological Survey's (USGS) Larabee Valley 7.5-minute quadrangle map. The USDA Forest Service CALVEG ("Classification and Assessment with Landsat of Visible Ecological Groupings") system classifies the property and project area as Douglas fir (DFR). The parcel is zoned Timber Production Zone (TPZ) and classified as Timberland (T) under the current general plan.

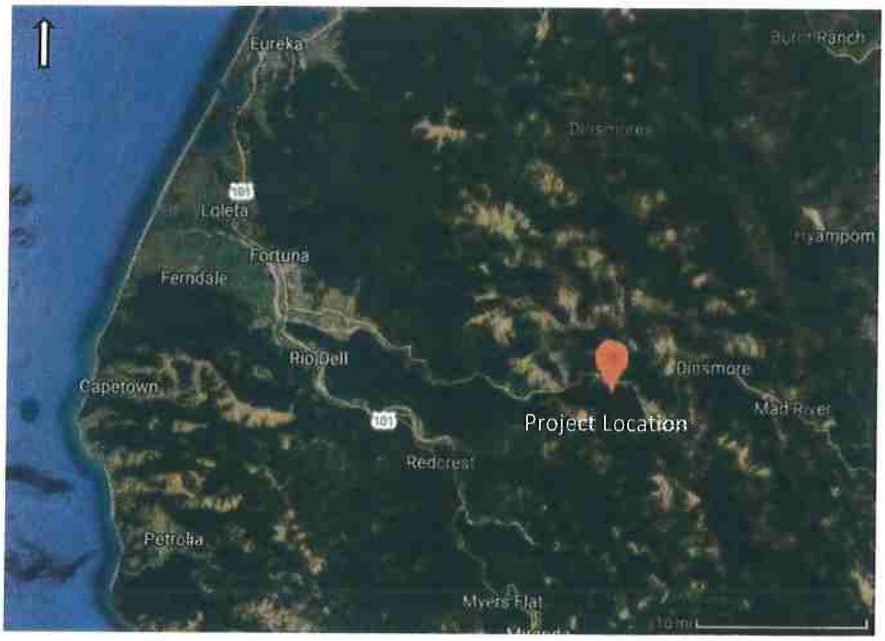


Figure 1. Project Location (accessed on Google Maps)

2.2 Soil, Topography, Hydrology

The soil complex of the project area is composed primarily of Hoagland-Chalkmountain-Pasturerock complex, 15 to 50 percent slopes (4412). These soils consist of very deep, well-drained soils formed in colluvium and residuum derived from sandstone and mudstone. The main component of this soil, the Hoagland series, is a gravelly loam typically found on southeast concave or convex positions on mountain slopes under Douglas-fir and Oregon white oak with a groundcover of western swordfern (*Figure 2*). The other geographically associated soils, the Chalkmountain and Pasturerock soil series, also consist of very deep, well drained soils formed in colluvium and residuum derived from sandstone and mudstone and found on similar landscape positions. The soil complex in the study area is not considered to be hydric.

These soils are thought to be located in areas which were previously grasslands and oak woodlands that have been invaded by Douglas-fir. Vegetation often associated with these soils include Douglas fir, tanoak, California black oak, Pacific madrone, California laurel, California huckleberry and western swordfern.

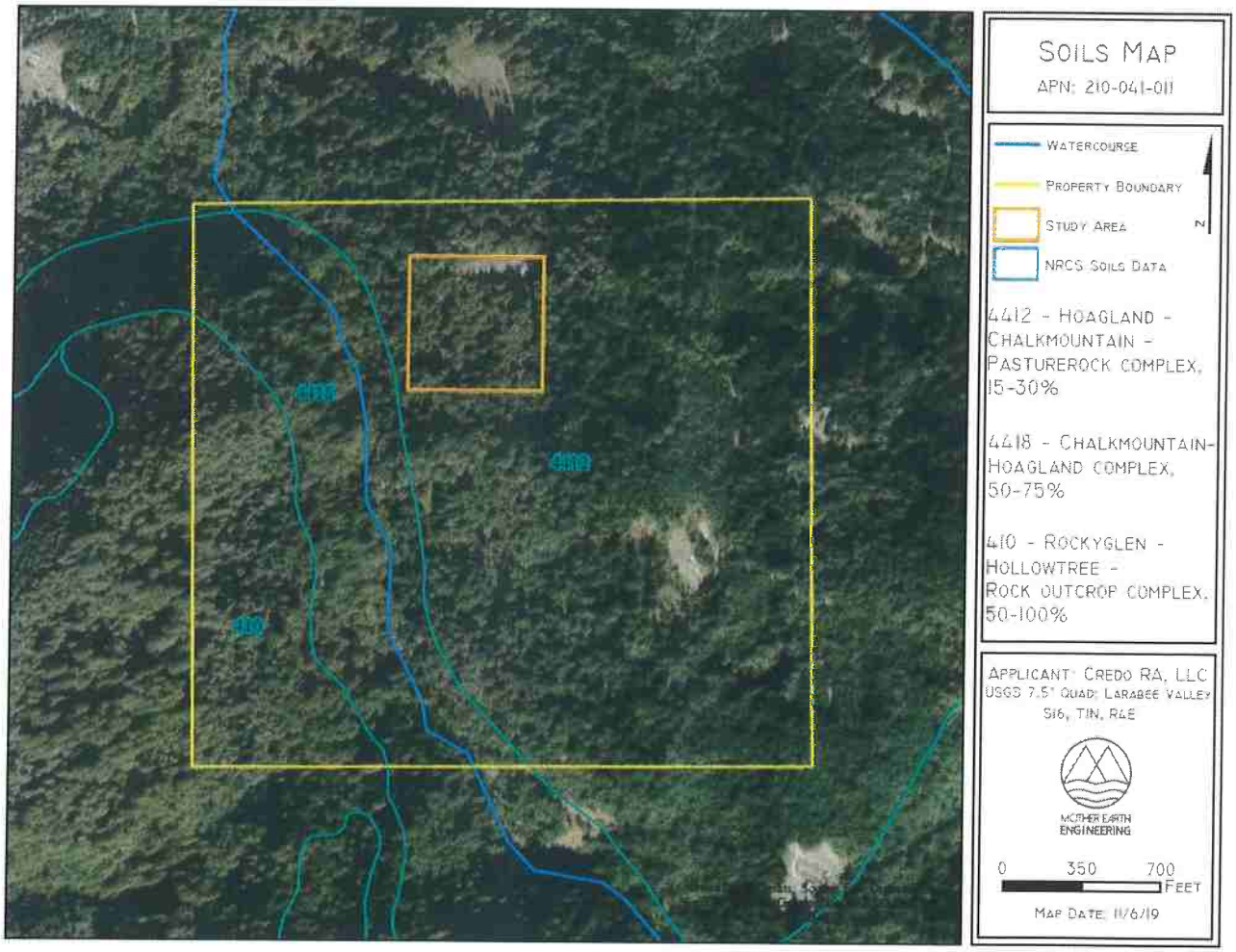


Figure 2. NRCS Soil Survey map of the subject property. The study area outlined in orange is composed primarily of the Hoagland-Chalkmountain-Pasturerock complex.

The study area is situated in a soft, open depression at the base of a hillside on a gently west facing aspect. The area is mapped as possessing high levels of instability in the Humboldt County GIS database. The study area is approximately 1,850 to 1,875 ft in elevation (*Figure 3).*

A perennial, non-fish bearing stream (Class II watercourse) runs approximately 600 ft west of the study area flowing north towards Little Larabee Creek. The area is in the Lower Van Duzen River watershed and the Hoagland Creek – Van Duzen River subwatershed[1].

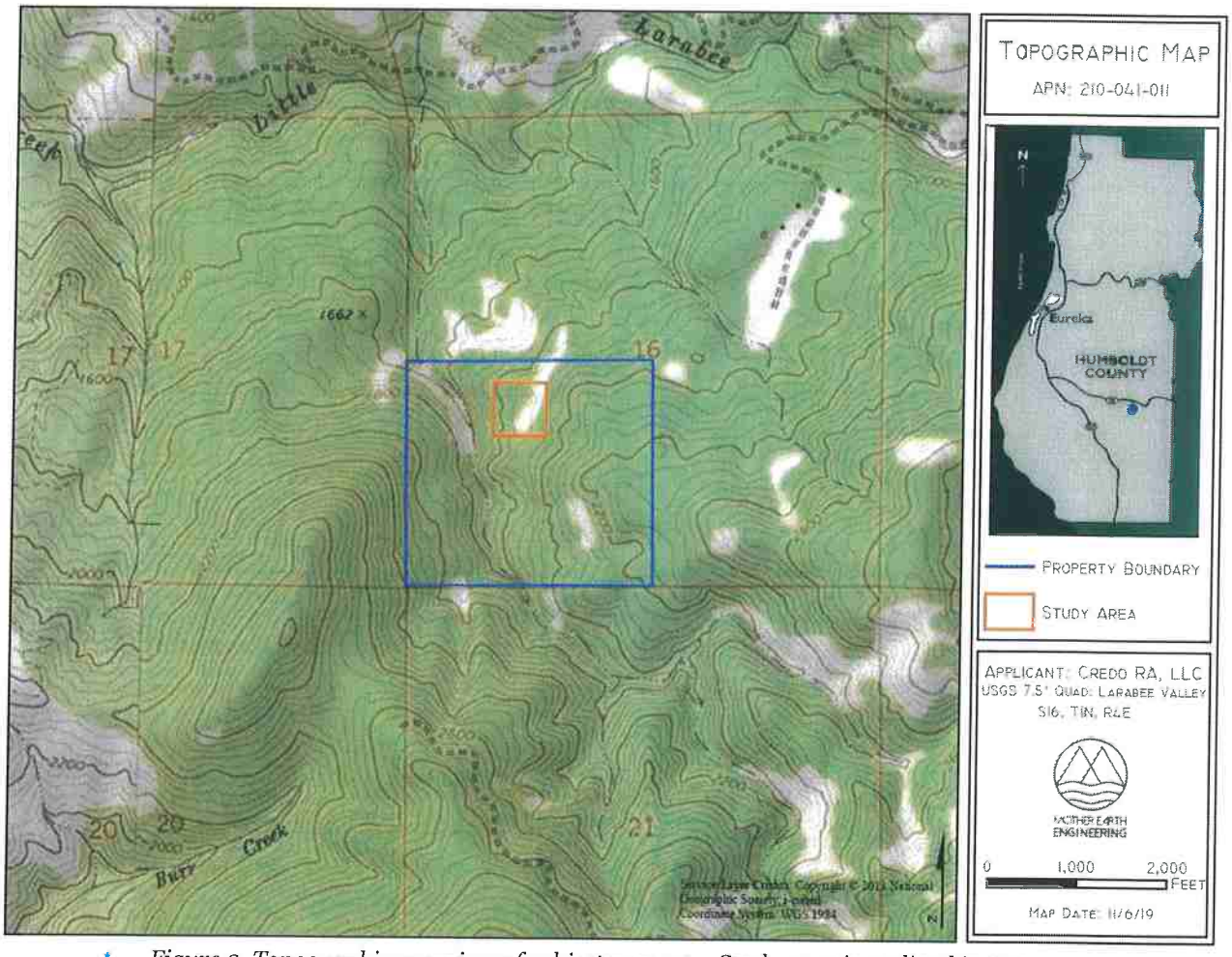


Figure 3. Topographic overview of subject property. Study area is outlined in orange.

3.0 Methods

Mother Earth Engineering staff conducted a site visit on 16 October 2019 to evaluate the presence of jurisdictional wetlands and identify wetland boundaries within the study area. Prior to the site visit, several sources of data were reviewed for any previously mapped wetlands in conjunction with soil type, weather records, and historic aerial photographs of the project area. The National Wetland Inventory (NWI) maps

[1] Caltrans Water Quality Planning Tool available at: http://svctenvims.dot.ca.gov/wqpt/wqpt.aspx.

indicate a seasonally flooded, intermittent riverine wetland system along the Class II watercourse 600 ft west of the study area (*Figure 4*).

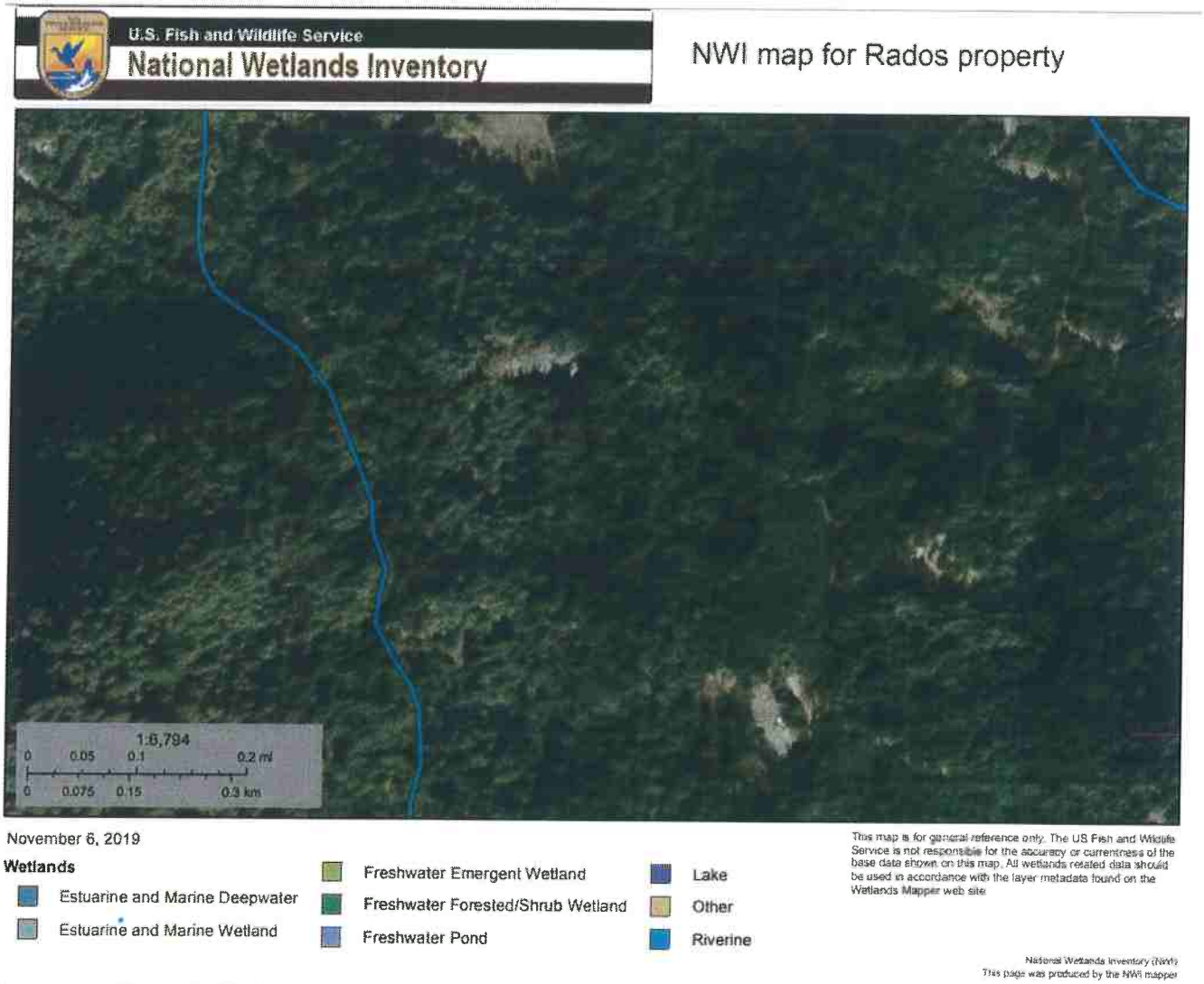


Figure 4. NWI map for Rados property. A seasonally flooded, intermittent Riverine wetland system is mapped along the Class II watercourse west of the study area. No other wetlands have been previously indicated.

The conditions on 16 October 2019 were overcast with partly cloudy skies. According to Oregon State University's PRISM Climate group[2], the last rain event in the area occurred on 30 September 2019 with 0.53 inches of precipitation. Approximately three (3) field hours were spent conducting routine on-site methods as described in the *Corps of Engineers Wetlands Delineation Manual* (1987 Manual), and the *Regional*

[2] Oregon State University's Northwest Alliance for Computational Science and Engineering (NACSE) PRISM Climate Group data accessed: http://www.prism.oregonstate.edu/

Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE 2010; Regional Supplement).

Environmental criteria for wetlands, as defined in the 1987 Manual include:

- The prevalent vegetation is hydrophytic;
- The soils present have been classified as hydric or possess reducing soil characteristics; and,
- The area is either permanently or periodically inundated at mean water depths less than or equal to 6.6 feet, or the soil is permanently or periodically saturated to the surface during the growing season.

The Routine Determination method outlined in the 1987 Manual was used in conjunction with procedures outlined in the Regional Supplement to identify and delineate wetlands within the project limits. Routine determinations involve simple, rapidly applied methods that result in sufficient qualitative data for identifying wetland and non-wetland areas.

The study area was walked and observed for evidence of potential wetland hydrology based on local topography and presence of hydrophytic vegetation. Data sample points were chosen based on site features for potential wetland areas and distinct upland areas to show contrast between wetland and upland field conditions.

The criterion for wetland vegetation is a dominance of hydrophytic species. Vegetation data at each sample point is identified by strata (tree, shrub, herbaceous and vine layer) and percent cover to determine dominant species. Each plant is identified to species level and classified as to whether or not they were wetland indicators in accordance to National Wetland Plant List (NWPL) 2016 Final Ratings.

Soils pits were examined at the sample points for evidence of redoximorphic features for hydric soil indications. The 1987 Manual's procedures were combined with the Natural Resources Conservation Service's (NRCS) definition of hydric soils presented in Changes in Hydric Soils of the United States and Field Indicators of Hydric Soils in the United States, Version 6.0 [United States Department of Agriculture (U.S.D.A.) 1995 and 2006, respectively]. Soil color was evaluated using *Munsell Soil Color Charts* (Munsell 2000).

The project was examined for field indicators of wetland hydrology. According to USACE (1987 and 2012), wetland hydrology consists of permanent or periodic inundation, or soil saturation to the surface during the growing season. If these indicators were present within the sample plots, the hydrology criterion was met.

Once the boundary of the wetland is determined from the data sampling effort, the edge of the wetland is flagged in the field and surveyed in order to produce a map of the wetland that occurs in the study area. Representative photographs of the sample points and wetland area were taken during the assessment (*Appendix A*).

A Garmin Rino 755t GPS was used for GPS points and tracking, and ArcMap 10.6.1 was used to create wetland maps and buffers.

4.0 Results

The study area can be described as an open depression area at the base of a hillside on a gently west facing Douglas Fir habitat type. One (1) jurisdictional wetland was identified within the study area, covering approximately 0.20 acres. The 0.20-acre wetland can be classified as a small, palustrine freshwater wetland (Cowardin *et al,* 1979) located in a depressional flat area (*Figure 5).*

Upon investigation, the area appears to receive water from hillside sheet flow and an undersized 12-inch diameter corrugated plastic culvert on an intermittent (Class III) watercourse. A Timber Harvest Plan (THP 1-98-434 HUM) of this area reveals that the THP recommended installation of a new culvert (no specific diameter) to "divert watercourse into flat natural wet area". A CDFW Lake and Streambed Alteration Agreement notification provided by Timberland Resource Consultants recommended a culvert upgrade to a minimum 18-inch diameter culvert.

In the upland areas (SP-1 and SP-3), the dry soils supported an overstory of Douglas-fir (*Pseudotsuga menziesii*), tanoak (*Notholithocarpus densiflorus*) and California laurel (*Umbellaria californica*). The shrub and sapling layer consisted of western swordfern (*Polystichum munitum*) and saplings of big leaf maples (*Acer macrophyllum*), tanoaks and California laurels. The herb and vine layers were sparse and contained species such as redwood sorrel (*Oxalis oregana*), Pacific blackberry (*Rubus ursinus*), and poison oak (*Toxicodendron diversilobum*).

The transition line into the wet area was distinct with a noticeable shift in vegetation composition. The dominant plant species identified at both wet sample areas (SP-2 and SP-4) consisted of California laurel, slough sedge (*Carex obnupta*), poison oak, woodfern (*Dryopteris expansa*) and great horsetail (*Equisetum telmateia*).

The soil pits were analyzed for the presence of hydric soil indicators including the presence of redoximorphic features in soils with chromas of 2 or less and chromas of 1 or less that are not attributed to organic matter. Both soil pits at SP-2 and SP-4 had loamy clay textures, similar in color, and contained redox concentrations. Soil pits at SP-1 and SP-3 did not contain any redoximorphic features.

The hydrology of the area was based on evidence of sediment deposits and an observation of surface water present in a man-made ditch. No identifiable ordinary high water mark was found as an outlet of the area. The boundary of this wetland was identified and flagged due to presence of hydrophytic vegetation, hydric soils, and hydrology, in addition to topography of the landscape. Adjacent uplands were distinguished from the wetland by lack of hydric soils, lack of hydrology, lack of hydrophytic vegetation and/or the presence of upland plants.

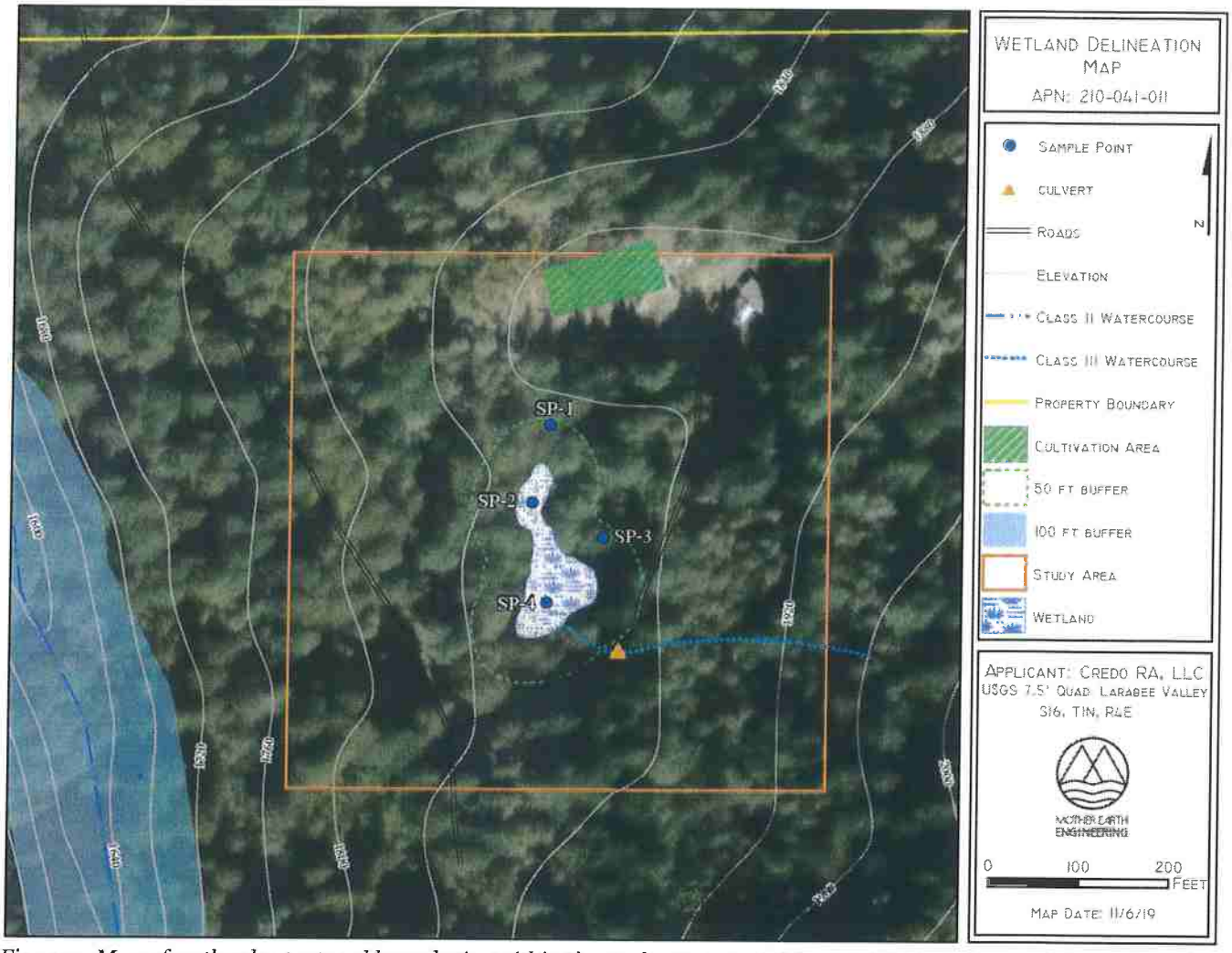


Figure 5. Map of wetland extent and boundaries within the study area. A 50 ft buffer designated around the wetland is outside cultivation activities.

5.0 Regulatory Background

5.1 U.S. Army Corps of Engineers (USACE)

The USACE Regulatory Branch regulates activities that may discharge dredged or fill materials into "waters of the U.S." under Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. This permitting authority applies to all "waters of the U.S." where the material (1) replaces any portion of a "waters of the U.S." with dry land or (2) changes the bottom elevation of any portion of any "waters of the U.S.". These fill materials include sand, rock, clay, construction debris, wood chips, and materials used to create any structure or infrastructure in these waters. The selection of disposal sites for dredged or fill material is done in accordance with guidelines specified in Section 404(b)(1) of the CWA, which were developed by the U.S. Environmental Protection Agency (USEPA).

5.2 Regional Water Quality Control Board (RWQCB)

The RWQCB is the primary agency responsible for protecting water quality in California through the regulation of discharges to surface waters under the CWA and the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act). The RWQCB's jurisdiction extends to all "waters of the State" and to all "waters of the U.S.," including wetlands (isolated and non-isolated).

Section 401 of the CWA provides the RWQCB with the authority to regulate, through a Water Quality Certification, any proposed, federally permitted activity that may affect water quality. Among such activities are discharges of dredged or fill material permitted by the USACE pursuant to Section 404 of the CWA. Section 401 requires the RWQCB to provide certification that there is reasonable assurance an activity with the potential for discharge into navigable waters will not violate water quality standards. Water Quality Certification must be based on findings that the proposed discharge will comply with water quality standards, which contain numeric and narrative objectives found in each of the nine RWQCBs' Basin Plans.

5.3 California Department of Fish and Wildlife

The CDFW has jurisdictional authority over wetland resources associated with rivers, streams, and lakes pursuant to the California Fish and Game Code (§§1600–1616). Activities of state and local agencies, as well as public utilities that are project proponents, are regulated by the CDFW under Section 1602 of the California Fish and Game Code.

Because the CDFW includes streamside habitats under its jurisdiction that, under the federal definition, may not qualify as wetlands on a project site, its jurisdiction may be broader than that of the USACE. Riparian forests in California often lie outside the plain of ordinary high water regulated under Section 404 of the CWA, and often do not have all three parameters (wetland hydrology, hydrophytic vegetation, and hydric soils) sufficiently present to be regulated as a wetland.

However, riparian forests are frequently included within CDFW regulatory jurisdiction under Section 1602 of the California Fish and Game Code.

The CDFW jurisdictional limits are not as clearly defined by regulation as those of the USACE. While they closely resemble the limits described by USACE regulations, they include riparian habitat supported by a river, stream, or lake regardless of the presence or absence of hydric and saturated soils conditions. In general, the CDFW extends jurisdiction from the top of a stream bank or to the outer limits of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place within or near a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish and other aquatic plant and/or wildlife species. It also includes watercourses that have a surface or subsurface flow that support or have supported riparian vegetation.

5.4 Humboldt County-Streamside Management Area

"Streamside Management Areas" (SMAs) [Section 3432(5) of the Humboldt County 1984 General Plan] are defined in the Humboldt County General Plan (Page G-8) and include a natural resource area along both sides

of streams containing the channel and adjacent land. Updates to the SMA guidance for cannabis activities are defined in the Environmental Impact Assessment Biological Resources Section[3].

Project applicants proposing development activities within a SMA or wetland areas are required to include a site-specific biological report prepared consistent with these regulations. The written report prepared by a qualified biologist is subsequently referred to CDFW for review and comment. If required, after agency review of the preliminary habitat assessment, protocol level surveys will be completed per recommendations by the Final Environmental Impact Report (FEIR) amendments to the Humboldt County Code Regulating Commercial Cannabis Activities[4].

5.5 Additional Laws and Policies

In addition to the above-mentioned policies, numerous other policies exist to protect wetlands, waters and biological resources including the California Environmental Quality Act (CEQA), California Endangered Species Act (CESA) and the Z'berg-Nejedly Forest Practice Act.

6.0 Conclusion and Discussion

Mother Earth Engineering staff conducted a site visit on 16 October 2019 to evaluate the presence of jurisdictional wetlands and identify wetland boundaries within the study area. This report is in response to a 6 May 2019 correspondence from the Humboldt County Cannabis Services Division requesting a wetland delineation for an area adjacent to cultivation activity on the 160-acre property owned by Rados Milojkovic of Credo RA, LLC.

Field observations were made in accordance with the *1987 Corps of Engineers Wetland Delineation Manual* and the *Regional Supplement: Western Mountains, Valleys, and Coast Region (Version 2.0)*. Upon site inspection, one (1) small 0.20-acre jurisdictional Palustrine Emergent wetland was identified within the study area. Palustrine Emergent Wetlands include all tidal and non-tidal wetlands dominated by persistent emergent vascular plants, emergent mosses or lichens, and all such wetlands that occur in tidal areas in which salinity due to ocean-derived salts is below 0.5 percent. The boundaries of the wetland were identified and flagged by the presence of hydrophytic vegetation, hydric soils, and hydrology, in addition to topography of the landscape. Adjacent uplands were distinguished from the wetland by lack of hydric soils, lack of hydrology, lack of hydrophytic vegetation and/or the presence of upland plants.

The subject wetland is designated with a 50 ft buffer around the delineation. It appears that all cultivation related activities are outside designated setbacks and buffers. All field pictures and data sheets for the wetland delineation area are included in *Appendix A* and *B* of this report. Additional consultation with agency staff including the California Department of Fish and Wildlife (CDFW), U.S. Army Corps of Engineers (USACE), Humboldt County and US Fish and Wildlife Service (USFW) will continue throughout the project application.

[3] https://humboldtgov.org/DocumentCenter/View/58840/Section-311-Biological-Resources-Revised-DEIRPDF

[4] Final Environmental Impact Report: Amendments to the Humboldt County Code Regulating Commercial Cannabis Activities. Prepared by Ascent Environmental. Accessed via https://humboldtgov.org/DocumentCenter/View/62689/Humboldt-County-Cannabis-Program-Final-EIR60mb-PDF. Accessed [September 2019]

References

Baldwin, B.G., D.H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkeley.

Cowardin/United States Fish and Wildlife Service, Classification of Wetlands and Deepwater Habitats of the United States, FWS/OBS 79/31, 1979.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List*: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X

Natural Resources Conservation Service, Web Soil Survey, Humboldt County, Central Part, California (CA-600), http://websoilsurvey.nrcs.usda.gov/app/HomePage.html.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at the following link: https://websoilsurvey.sc.egov.usda.gov/.

United States Department of Agriculture, Natural Resources Conservation Service, Field Indicators of Hydric Soils in the United States, 2006.

United States Department of the Army Corps of Engineers, 2006. Draft Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region. J. S. Wakeley, R. W. Lichvar, and C. V. Noble, eds. Army Engineer Research and Development Center, U.S. Army Corps of Engineers (COE).

United States Department of the Army Corps of Engineers, Wetlands Delineation Manual, Tech. Rep 4-87-1987.

Webgis.co.humboldt.ca.us. (2019). ArcGIS Web Application. [online] Available at: http://webgis.co.humboldt.ca.us/HCEGIS2.0/ [Accessed November/6/2019].

Appendix A

Field Pictures

[Page intentionally left blank]

Picture No. 1	
October 16, 2019	
Description: Upland sample point SP-1 looking west.	

Picture No. 2	
October 16, 2019	
Description: North edge of wetland looking south.	

Picture No. 3	
October 16, 2019	
Description: View of wet area sample point SP-2 marked by red flag looking south.	

Picture No. 4	
October 16, 2019	
Description: View of upland area sample point SP-3 looking south with eastern edge of wetland on the right side.	

Picture No. 5	
October 16, 2019	
Description: View of wetland area sample point SP-4 looking west. Area dominated by slough sedge, poison oak and willows.	

Picture No. 6	
October 16, 2019	
Description: Another view of the subject wetland on the eastern edge looking southwest.	

Appendix B

Data Forms

[Page intentionally left blank]

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rados Site City/County: Bridgeville, Humboldt Sampling Date: ~~SP-1~~ 10/16/19

Applicant/Owner: Rados Hilojkovic State: CA Sampling Point: SP-1

Investigator(s): R. Okuyama Section, Township, Range: S16, T1N, R4E

Landform (hillslope, terrace, etc.): hillslope - toe Local relief (concave, convex, none): Concave Slope (%): <10

Subregion (LRR): A Lat: 40.46215 Long: -123.73611 Datum: WGS84

Soil Map Unit Name: Hoagland - Chalkmountain - Pasturerock complex NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pseudotsuga menziesii	30	Y	FacU
2. Notholithocarpus densiflorus	12	No	–
3. Umbellaria californica	8	No	Fac
4.			
	50 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10 ft)			
1. Polystichum munitum	35	Y	FacU
2. Umbellaria californica	15	No	Fac
3.			
4.			
5.			
	50 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Oxalis oregana	30	Y	FacU
2. Toxicodendron diversilobum	15	No	Fac
3. Rubus ursinus	10	No	FacU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	55 = Total Cover		
Woody Vine Stratum (Plot size: 5 ft)			
1. –			
2. –			
	– = Total Cover		

% Bare Ground in Herb Stratum 30

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: SP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10"	10YR 2/2	100	—	—	—	—		
10-20"	10YR 2/2	100	—	—	—	—	Fine Loamy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: N/A

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rados site City/County: Bridgeville, Humboldt Sampling Date: 10/16/19
Applicant/Owner: Rados Milojkovic State: CA Sampling Point: SP-2
Investigator(s): R. Okuyama Section, Township, Range: S16, T1N, R1E
Landform (hillslope, terrace, etc.): hillslope - toe Local relief (concave, convex, none): concave Slope (%): 2 10
Subregion (LRR): A Lat: 40.46191 Long: -123.73617 Datum: WG384
Soil Map Unit Name: Hocgland - Chalk mountain - Pasture rock complex NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Umbellaria californicus	20	Y	FAC
2. Pseudotsuga menziesii	5	NO	FACU
3.			
4.			
	25 = Total Cover		

Sapling/Shrub Stratum (Plot size: 10 ft)			
1. Pteridium aquilinum	10	Y	FACW
2. Equisetum telmateia	30	Y	FACW
3. Rubus ursinus	10	Y	FAC
4. ~~Toxicodendron diversilobum~~			
5.			
	50 = Total Cover		

Herb Stratum (Plot size: 5 ft)			
1. Toxicodendron diversilobum	25	Y	FAC
2. oxalis oregana	10	N	FACU
3. Carex obnupta	20	Y	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	55 = Total Cover		

Woody Vine Stratum (Plot size: 5)			
1. Toxicodendron diversilobum	15	Y	FAC
2.			
	15 = Total Cover		

% Bare Ground in Herb Stratum 3

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)
Total Number of Dominant Species Across All Strata: 8 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
✓ 1 - Rapid Test for Hydrophytic Vegetation
✓ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: SP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 3/1	80	7.5YR 5/8	20	C	PL	loamy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- X Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface water observed in pit ~ 3' away from sample point SP-2.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rados Site City/County: Bridgeville, Humboldt Sampling Date: 10/16/19
Applicant/Owner: Rados Milojkovic State: CA Sampling Point: SP-3
Investigator(s): R. Okuyama Section, Township, Range: S16, T1N, R4E
Landform (hillslope, terrace, etc.): hillslope - toe Local relief (concave, convex, none): concave Slope (%): 10
Subregion (LRR): A Lat: 40.4181 Long: -123.73585 Datum: WGS84
Soil Map Unit Name: Hoagland-Chalkmountain-Pasturerock complex NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No ✓	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____	No ✓	
Wetland Hydrology Present?	Yes ____	No ✓	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pseudotsuga menziesii	15	✓	FacU
2. Acer macrophyllum	20	✓	FacU
3. Umbellaria californica	15	✓	Fac
4. Notholithocarpus densiflorus	10	✓	NL
	60	= Total Cover	

Sapling/Shrub Stratum (Plot size: 10 ft)			
1. Polystichum munitum	10	✓	FacU
2. ~~Quercus~~ Acer macrophyllum	3	No	FacU
3. Notholithocarpus densiflorus	2	No	NL
4.			
5.			
	15	= Total Cover	

Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	____	= Total Cover	

Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	= Total Cover	

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)
Total Number of Dominant Species Across All Strata: ____ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species ____	x 1 =	____
FACW species ____	x 2 =	____
FAC species ____	x 3 =	____
FACU species ____	x 4 =	____
UPL species ____	x 5 =	____
Column Totals: ____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ✓

Remarks:

SOIL

Sampling Point: SP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR 4/2	100	-	-	-	-	Fine loamy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Rados Site City/County: Bridgeville, Humboldt Sampling Date: 10/16/19

Applicant/Owner: Rados Milgkovic State: CA Sampling Point: SP-4

Investigator(s): R. Okuyama Section, Township, Range: S16, T1N, R4E

Landform (hillslope, terrace, etc.): hillslope-toe Local relief (concave, convex, none): concave Slope (%): 2 to

Subregion (LRR): A Lat: 40.46161 Long: -123.73611 Datum: WGS84

Soil Map Unit Name: Hoagland-Chalkmountain-Pastenerock complex NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Umbellaria californicus	20	✓	FAC
2. Salix scouleriana	10	✓	FAC
3.			
4.			
	30 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10 ft)			
1. Toxicodendron diversilobum	65	✓	FAC
2. Dryopteris expansa	35	✓	FACW
3.			
4.			
5.			
	100 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Carex densupta	50	✓	OBL
2. Toxicodendron diversilobum	30	✓	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ 5 - Wetland Non-Vascular Plants[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: SP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/1	80	7.5YR 5/8	20	C	PL	loamy clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ✓ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ✓ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): _____

Water Table Present? Yes ___ No ___ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix B

Grading Plan

Retroactive Grading Permit to be developed after R-2 Study is completed.